

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  
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## PCT

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

|   |  |  |
|---|--|--|
| Applicant's or agent's file reference<br>33751-03   |  | Date of mailing<br>(day/month/year) <b>18 MAR 2005</b> |
| International application No.<br>PCT/US04/35196   |  | <b>FOR FURTHER ACTION</b><br>See paragraph 2 below     |
| International filing date (day/month/year)<br>22 October 2004 (22.10.2004)  | Priority date (day/month/year)<br>24 October 2003 (24.10.2003) |  |
| International Patent Classification (IPC) or both national classification and IPC<br>IPC(7): F25B 49/00; F25D 17/04 and US Cl.: 62/176.1, 176.6; 236/44A, 44C |  |  |
| Applicant<br>FULLER, ANDREW C.  |  |  |

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

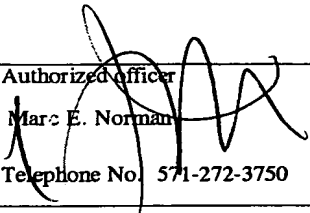
#### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

|  |  |
|--|--|
| Name and mailing address of the ISA/ US<br>Mail Stop PCT, Attn: ISA/US<br>Commissioner for Patents<br>P.O. Box 1450<br>Alexandria, Virginia 22313-1450<br>Facsimile No. (703) 305-3230 | Authorized officer<br><br>Marc E. Norman<br>Telephone No. 571-272-3750 |
|--|--|

**WRITTEN OPINION OF THE  
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International application No.

PCT/US04/35196

**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

|                               |   |     |
|-------------------------------|---|-----|
| Novelty (N)                   | Claims <u>2,4,5,7-9,13,14 and 19-30</u> | YES |
|                               | Claims <u>1,3,6,10-12 and 15-18</u>     | NO  |
| Inventive step (IS)           | Claims <u>8,9,13 and 14</u>             | YES |
|                               | Claims <u>1-7,10-12 and 15-30</u>       | NO  |
| Industrial applicability (IA) | Claims <u>1-30</u>                      | YES |
|                               | Claims <u>NONE</u>                      | NO  |

**2. Citations and explanations:**

Please See Continuation Sheet

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

**V. 2. Citations and Explanations:**

Claims 1, 3, 6, 10-12, and 15-18 lack novelty under PCT Article 33(2) as being anticipated by Akiyama.

As per claims 1 and 10, Akiyama discloses a dehumidifier (drying mode of air conditioner 1), user interface 2, humidity sensor 19, means for desired humidity selection (Figure 7; 44); and a controller activating the humidifier when the relative humidity is higher than the desired humidity (column 1, lines 28-35).

As per claims 3 and 18, Akiyama discloses remote controller 2 having a wireless interface (Figure 1).

As per claim 6, Akiyama discloses remote controller 2 having a display showing the listed information (Figure 5).

As per claims 11 and 12, Akiyama discloses fan 7 as part of the dehumidification device.

As per claim 15, Akiyama discloses interface 2 being remote (Figure 1).

As per claim 16, Akiyama discloses interface 2 having selecting means (Figure 5).

As per claim 17 Akiyama discloses means 32 for selecting a desired humidity.

Claims 2, 4, 7, and 19 lack an inventive step under PCT Article 33(3) as being obvious over Akiyama.

As per claims 2 and 19, official notice is taken that, while Akiyama teaches the controller 2 being a wireless controller, hard wired controls are old and well known in the art and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply to the system of Akiyama for the simple purpose of having a set control location.

As per claim 4, while Akiyama only teaches a single fan 7, official notice is taken that multi-fan systems are old and well known in the art and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply to the system of Akiyama for the simple purpose of scaling up the blowing capacity.

As per claim 7, while Akiyama does not teach a power unit, official notice is taken that batteries are common and integral component of remote controllers and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply to the system of Akiyama for the simple purpose powering the remote controller 2.

Claim 5 lacks an inventive step under PCT Article 33(3) as being obvious over Akiyama in view of Jones.

As per claim 5, Akiyama does not teach the interface having a service light. However, controller service lights are old and well-known in the art of temperature/humidity control systems. Jones for example teaches an HVAC system wherein the interface has a service light 65. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply this feature to the system of Akiyama for the purpose of indicating detected service needs of the system.

Claims 20-30 lack an inventive step under PCT Article 33(3) as being obvious over Akiyama in view of Warner.

As per claim 20, Akiyama does not teach an alarm. Warner teaches a humidity sensor alarm system wherein the alarm circuit is activated when the relative humidity rises above a certain value (Abstract, lines 1-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the alarm of Warner to the system of Akiyama for the purpose of warning of excessive humidity conditions.

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**Supplemental Box**

**In case the space in any of the preceding boxes is not sufficient.**

As per claim 21, Akiyama teaches a sensor, controller, humidity adjustment, but does not teach means for warning. such means are taught by Warner as discussed regarding claim 20.

As per claims 22, 23, and 26-30, Akiyam et al. further teaches a user interface, humidity sensor, second controller, an HVAC system, electrical connections, remote/radio frequency/wireless connections, and multiple sensors.

As per claim 24, official notice is taken that dispatching alarms to repair persons is generally old and well-known in the art.

As per claim 25, Warner further teaches alarming regarding malfunctions (Abstract, line 3).